



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,143	01/20/2004	Lewis R. Dove	10020701-1	4168

7590 11/01/2005

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

[REDACTED] EXAMINER

LEE, BENNY T

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

2817

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/762,143	DOVE ET AL.	
	Examiner Benny Lee	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 15 August 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-5, 7-9, 11, 12, 14; 15-18 is/are rejected.
 7) Claim(s) 6, 10, 13; 19, 20 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

The disclosure is objected to because of the following informalities: Page 4, paragraph [0016], note that “is shielded 106, 108” appears to be an incomplete recitation. Applicants’ comments have been noted. The examiner finds applicants’ alternative language much more suitable, and suggests that an amendment incorporating such language be made in applicants’ next response. Pages 5, 6, paragraph [0025], note that --by step-- should precede (902, 904, 906, 908, 910), respectively. Applicants’ comments regarding this issue has been noted, but found to be unpersuasive. It should be noted that each of the above labeled blocks (i.e. 902, 904, ..., etc) are indeed --steps-- in the flow diagram depicted in “Fig. 9” and thus such terminology is deemed appropriate. Appropriate correction is required.

The disclosure is objected to because of the following informalities: Note that the following reference labels need description relative to the corresponding figure: fig. 4 (218), fig. 8, all reference labels except (700, 702, 704). Applicants’ comments regarding this issue has been noted, and it is suggested that to avoid duplicative description, applicants’ should provide a statement indicating that like reference numbers in different drawing figures refer to the same element/feature and may not be described in detail for all drawing figures. Appropriate correction is required.

The following claims have been found objectionable for reasons set forth below:

In claim 14, note that --respective-- should precede “thickfilms”. Note that use of the term --respective-- would be deemed appropriate in view of the claim recitation of the different features, where each feature has it’s own “thick film”.

In claim 19, note that --respective-- should precede “mounds”, especially since more than one “mound” is disclosed, where each mound has it’s own “dielectric”.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 7, 11, 12, 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Arledge et al or Shimada et al in view of Kobayashi (all of record).

Note that Arledge et al and Shimada et al (figs. 9-13) each pertain to shielded coaxial line structures comprising: a lower ground layer (372 in Arledge et al; 35A in Shimada et al); a dielectric layer (312, in Arledge et al; 33 in Shimada et al) deposited over the lower ground layer; a signal conductor (332 in Arledge et al, 31 in Shimada et al) deposited over the dielectric layer; a dielectric mound or layer (342 in Arledge et al; 34 in Shimada et al) deposited over the signal conductor; and an upper shielding layer (382 in Arledge et al; 36 in Shimada et al) deposited over the dielectric mound and arranged to be electrically connected to the ground layer as to provide an enclosed shielding arrangement. However, each primary reference differs from the claimed invention in that plural shielded coaxial arrangements are not disclosed.

Kobayashi discloses plural shielded coaxial wiring patterns in a multi-layer structure of the type analogous to those in Arledge et al or Shimada et al.

Accordingly, it would have been obvious to have modified the shielded coaxial structures in either Arledge et al or Shimada et al to have respectively included a plurality of such shield coaxial structures in view of the exemplary teaching thereof by Kobayashi and especially in view of the analogous art nature of the references.

Moreover, note that Kobayashi discloses forming the shielded coaxial multi-layer structure through thick film deposition of dielectric and conductive layers. Thus this would have obviously suggested that the shielded coaxial structure of the combination would have likewise been formed through such a thick film processing as taught by the analogous art reference to Kobayashi.

Claims 3-5, 8, 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al in view of Kobayashi (both of record).

As described in the preceding rejection, it would have been obvious to have formed a plurality of Shimada et al shielded coaxial structures in accordance with the teaching of Kobayashi for reasons set forth in the above rejection.

Note that with respect to figs. 11-13 in Shimada et al the shield layer (36) is electrically connected to the lower ground layer (35) through vias (38, 37). Note in particular that vias (37) include flange shape pads on the surface of dielectric layer (33). Moreover, note that conductive traces (2) also electrically connected to the lower ground layer (35) through vias (38, 37). Note in particular that vias (37) include flange shape pads on the surface of dielectric layer (33).

Moreover, note that conductive traces (2) also electrically connect the vias into a ground state condition (see fig. 11). Also note glass impregnated dielectric layers (see col. 9, ls 13-15).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the above rejection as applied to claim 1, respectively above, and further in view of Dove et al ('979), of record.

The above combination meets the claimed invention except for the use of KQ dielectrics.

Dove et al discloses that the use of KQ dielectrics, especially in shielded coaxial multi-layer structures, is conventional in the art.

Accordingly, in view of the recognized teaching in Dove et al, it would have been obvious to have further modified the dielectric layer and mounds of the combination to have been KQ dielectric material, especially in view of their recognized conventional use in shielded coaxial multi-layer structures, such as in the combination.

Applicant's arguments filed 15 August 2005 have been fully considered but they are not persuasive.

Applicants' have argued that the Arledge et al and Shimada et al shielded transmission line structures are limited a single transmission line, and furthermore, even in light of the Kobayashi reference, there would have been no motivation to have replicated plural ones of the shielded transmission lines in either Shimada et al or Arledge et al. furthermore, with respect to the combination with Dove et al, it has been argued that Dove et al does not make up for the deficiencies of the above combination.

The examiner has considered applicants' arguments, but have found them unpersuasive. It should be noted that both Arledge et al and Shimada et al pertain to printed circuit boards (PCBs), which are in a "high density" configuration. Accordingly, one of ordinary skill in the art

recognizes that in a “high density” environment, many electrical/electronic components are disposed on a PCB and thus necessarily need many replica transmission lines of the type depicted in the corresponding reference. In other words, to have a “high density” of electrical/electronic components inherently requires plural shielded transmission lines to connect such components. Accordingly, the “high density” nature of the PCBs in either Arledge et al or Shimada et al makes the PCBs of each reference capable of supporting more than the single shielded transmission line depicted in the corresponding reference. Therefore, in view of the capability of supporting more than one such shielded transmission line in the PCB of either Arledge et al or Shimada et al, such references are indeed compatable with the plural shielded transmission line taught in Kobayashi, and as such would have suggested the obviousness of the combination. Moreover, it should be noted that the proposed modification, as taught by Kobayashi, pertains to the particular individual shielding and not necessarily to modifying the dielectric structure. As for the combination with Dove et al, it should be noted that such a combination is merely being relied on to establish the obviousness of the KQ dielectric, to which applicants’ have not argued the obviousness thereof. Accordingly, it appears that the patentability of these claims would generally rise or fall with the patentability of the respective independent claim from which they depend.

Claims 6, 10, 13; 19, 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2817

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number (571) 272-1764.

B. Lee


BENNY T. LEE
PRIMARY EXAMINER
ART UNIT 2817